Claims: We claim:

1. ~~A method of segmenting input data representing an image in order to locate a part of~~ said image, said input data comprising voxels, said method comprising the steps of:

   (a) storing a graph data structure in the memory of a computer system, said graph data structure comprising nodes and edges with weights,

      (i) said nodes comprising nodes *s*, *t*, and plurality of voxel nodes, and

      (ii) said edges comprising

         (A) at least one edge from said node *s* to at least one of said voxel nodes,

         (B) at least one edge from at least one of said voxel nodes to said node *t*, and

         (C) at least one neighbor edge from at least one of said voxel nodes to another of said voxel nodes;

   (b) designating one of said voxel nodes as corresponding voxel node for each of said voxels;

   (c) setting said weights for said edges;

   (d) partitioning said nodes into at least two groups, one including said node *s* and another including said node *t*, by a minimum-cut algorithm; and

   (e) partitioning said voxels into at least two segments by assigning each of said voxels to the segment corresponding to the group to which said corresponding voxel node for the voxel belongs.

2. A method of claim 1 wherein

   (a) said input data further comprises a neighborhood structure, and

   (b) at least one of said neighbor edges is between two of said voxel nodes designated as said corresponding voxel nodes for two of said voxels that are neighbors according to said neighborhood structure.

3. A method of claim 2 wherein said voxels comprise the whole or a part of a *DIM*-dimensional array of data.

4. A method of claim 3 wherein said neighborhood structure comprises the *k*-th nearest neighborhood structure.

5. A method of claim 3 wherein at least part of said array of data represents one or more physical properties at regular grid positions within the interior of solid bodies.

6. A method of claim 4 wherein at least part of said array of data represents one or more physical properties at regular grid positions within the interior of solid bodies.

7. A method of claim 3 wherein *DIM* is at least 3.

8. A method of claim 1,

   (a) wherein said input data further comprises a likelihood number for each of said voxels; and

   (b) said step of setting said weights for said edges comprises a step of, for each voxel node, setting

      (i) said weight for said edge from said node *s* to said voxel node to a nonnegative number *w*1 and

      (ii) said weight for said edge from said voxel node to said node *t* to a nonnegative number *w*2 so that

      (iii) *w*1 – *w*2 equals the sum of likelihood numbers for all of said voxels to which said voxel node is designated as said corresponding voxel node.

9. A method of claim 8 wherein

   (a) said input data further comprises a neighborhood structure, and

   (b) at least one of said neighbor edges is between two of said voxel nodes designated as said corresponding voxel nodes for two of said voxels that are neighbors according to said neighborhood structure.

10. A method of claim 9 wherein said voxels comprise the whole or a part of a *DIM*-dimensional array of data.

11. ~~A method of claim 10 wherein said neighborhood structure~~ comprises the *k*-th nearest neighborhood structure.

12. A method of claim 10 wherein at least part of said array of data represents one or more physical properties at regular grid positions within the interior of solid bodies.

13. A method of claim 11 wherein at least part of said array of data represents one or more physical properties at regular grid positions within the interior of solid bodies.

~~14. A method of claim 10 wherein *DIM* is at least three.~~

Add C2

Add B1